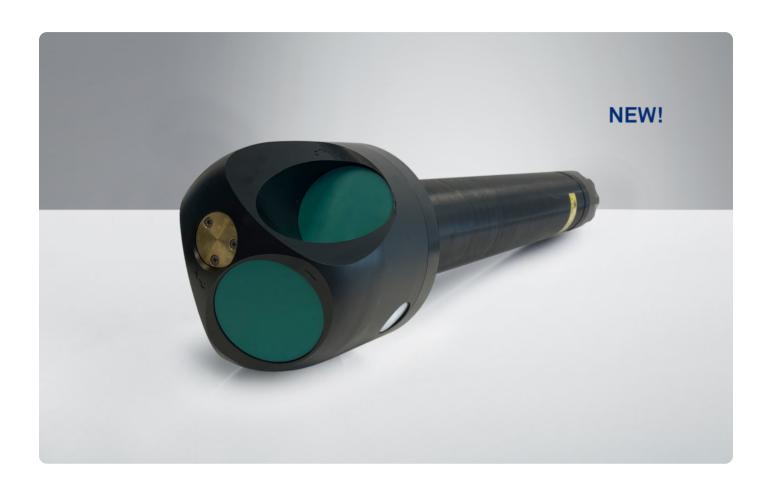
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Aquadopp Profiler 400 kHz - 500 m, Generation 2





Up to 90 m current profiling range; ideal for mean current measurements

The Aquadopp Profiler is a highly versatile Acoustic Doppler Current Profiler (ADCP) available in four profiling range options, from < 1 m to > 90 m. The 400kHz version is designed for simple yet powerful operation, this current profiler is packed with features used by engineers and researchers to enable accurate and effective hydrodynamic data collection in a variety of environmental conditions.

See the details of the Generation 2 Aquadopp updates in the release notes here.

Highlights

- ✓ Up to 90 m current profiling range
- ✓ Simple operation and deployment
- ✓ Ideal for a wide range of applications and deployment methods

Applications

- Mean flow measurements with high focus on ease of use and simplicity
- Measurements in flow regimes with strong variations in flow speeds
- ✓ Studies of tidal currents
- ✓ Suitable for wave buoys

Technical specifications

→ Water velocity measurements	
Nominal profiling range*	90 m
Cell size	1-8 m
Maximum number of cells	200
Minimum blanking	1 m
Velocity range (along beam)	±1 m/s, ±2.5 m/s, ±5 m/s
Accuracy	±1% of measured value ±0.5 cm/s
Velocity range (horizontal)	±2.3 m/s, ±5.75 m/s, ±11.5 m/s, ±20 m/s (upon request)
Horizontal velocity precision**	Typ. 1cm/s
Maximum sampling rate (output)	1 Hz
Wave measurement	PUV (optional)
* Depending on scattering conditions	
** Consult instrument SW	
→ Echo intensity	
Sampling	Same as velocity
Resolution	0.5 dB
Dynamic range	90 dB
Transducer acoustic frequency	400 kHz
Number of beams	3 (see GA drawings for angles)
Beam width	1.9° (3.8° total)
→ Sensors	
Temperature:	
Temp. range	-4 to +40 °C
Temp. accuracy/resolution	0.1 °C/0.01 °C
Temp. time response	<1 min
Compass:	Solid State Magnetometer
Accuracy/resolution	<2° for tilt <30°/0.01°
Tilt:	Solid State Accelerometer
Accuracy/resolution	0.2° for tilt $<30^{\circ}/0.01^{\circ}$
Maximum tilt	Full 3D
Up or Down	Automatic detect
Pressure:	Piezoresistive
Range	30m/100m/500m
Accuracy/Precision	0.5% FS/ 0.005% of full scale
→ Data recording	
Capacity	16 GB
→ Real-time clock	

Accuracy	±1 min/year
Backup in absence of power	4 weeks
→ Data communications	
I/O	RS-422 (Inquire for RS-232)
Communication Baud Rate	9600 Baud-1.2 Mbaud (default 115200 Baud)
User control	Nortek Deployment Software or direct ASCII commands, with binary or ASCII data output
→ Software	
Operating system	Cross platform
Functions	Deployment planning, instrument configuration, data retrieval and conversion. Online data display.
→ Power	
DC input	9-24 VDC
Absolute maximum DC input	26 VDC
Maximum peak current	4.5 A
Power consumption	Consult Nortek Deployment Software
Sleep current	< 40 uA
Transmit power	Adjustable
→ Batteries	
Internal Battery Capacity	1-3x 50 Wh (Alkaline), 2-3x 165 Wh (Lithium), 1-3x 76 Wh (Lilon)
Battery weight	430 g per 50 Wh (Alkaline), 380 g per 165 Wh (Lithium), 300 g per 76 Wh (Li-lon)
New battery voltage	13.5 VDC
→ Environmental	
Operating temperature	-5 to +40 °C
Storage temperature	-20 to +60 °C
Shock and vibration	Shock: IEC 60068-2-27, Vibration: IEC 60068-2-64
EMC	EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019
Depth rating	500 m
→ Connectors	
Bulkhead (Impulse)	MCBH-8-FS Brass
Cable	PMCIL-8-MP on 5 m (default) polyurethane cable
→ Materials	
POM, Naval Brass, Titanium Gr. 5, Epoxy	
→ Dimensions (see drawings for deta	ils)

75 mm

685 mm

Maximum housing diameter

Maximum length

→ Weight

Weight in air (without batteries)	3700 g
Weight in water (without batteries)	50 g
Weight in air, short housing (without batteries)	3100 g
Weight in water, short housing (without batteries)	500 g
→ Head configurations	
S4VP	Shallow water, 400 kHz, Vertical orientation, Profiler
→ Online cable information	
→ Online cable information Power wire gauge	20AWG; 20AWG; 18AWG
	20AWG; 20AWG; 18AWG Standard; Standard; Long cable kit
Power wire gauge	
Power wire gauge Hardware	Standard; Standard; Long cable kit
Power wire gauge Hardware Cable length	Standard; Standard; Long cable kit 0-10m; 10-50m; 50-500m